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This amendment is in response to the non-final Office action (Paper No. 20060908) mailed 13 September 2006. Claims 34 through 53 are pending. Applicant has amended claims 34, 39, 40, 41,, 43, 44, 47, 48, 51, 52 and 53 by this amendment.

On Pages 2 and 3 of Paper No. 20060908, the Examiner objected to the drawings, the specification and the claims because the claims claim "barrier walls" instead of --chamber walls-- as stated in the specification. Applicant has amended claims 34, 39, 40, 41,, 43, 44, 47, 48, 51, 52 and 53 by this amendment changing each instance of "barrier" into --chamber-- to overcome these objections.

Prior Art Rejections

In Paper No. 20060908, the Examiner rejected claims 39-42 and 47-53 under 35 U.S.C. §102 for alleged anticipation by Baughman *et al.* (US 5,387,314). Applicant has the following comments.

Regarding Applicant's claim 39, Applicant claims, "forming barrier walls over the substrate, the barrier walls separating pairs of patterned resistive heater elements from each other". In Paper No. 20060908, the Examiner equates reference numeral 16 of Baughman with Applicant's resistive heater element(s) and reference numeral 17 of Baughman with Applicant's barrier or chamber walls. Then, on Page 4 of Paper No. 20060908, the Examiner states that this limitation is taught by FIGS. 1, 2a, 2b and 3 of Baughman. Applicant disagrees.

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Applicant submits that each of FIGS. 1, 2a, 2b and 3 of Baughman clearly shows that the layer 17 separates individual resistive heater elements 16 from each other. Applicant submits that the resistive heater elements in Baughman are not paired off as in Applicant's claimed invention. Applicant submits that in Baughman, there is a one-to-one correspondence between the chambers 15 and the resistive heater elements 16. Therefore, Applicant submits that Baughman can not possibly anticipate Applicant's claim 39.

Again regarding Applicant's claim 39, Applicant claims, "each nozzle hole being disposed above a portion of the substrate between a pair of patterned resistive heater elements". On Page 4 of Paper No. 20060908, the Examiner merely states that Baughman anticipates "each nozzle hole being disposed above a portion of the substrate between a pair of patterned resistive heater elements". Applicant disagrees. Applicant has reviewed each of FIGS. 1, 2a, 2b and 3 of Baughman and cannot find any nozzle hole 20 being between a pair of resistive heater elements 16. Instead, Applicant submits that the figures of Baughman clearly show each nozzle hole as being directly above a single resistive heater element 16. Furthermore, col 3, line 67 through col 4, line 1 of Baughman state, "Associated with the resistor 16 is a nozzle, or convergent bore, 20, located near the resistor in a nozzle plate 22." Also, col 4, lines 18-20 of Baughman state, "Each orifice 20 is thus seen to be operatively associated with an resistor 16 for ejecting as quantity of ink ...". This clearly shows that there is a one-to-one correspondence between resistor elements 16 and nozzle holes 20 in Baughman. Therefore, Applicant submits that Baughman can not possibly anticipate Applicant's claim 39.

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Regarding Applicant's claim 41, Applicant claims, "the resistive heater elements being formed in pairs, wherein barrier walls serve to separate one pair of resistive heating elements from another adjacent pair of resistive heater elements". On Page 5 of Paper No. 20060908, the Examiner addresses this limitation by saying, "As applied to claim 41, Baughman et al disclose the resistive heater elements being formed in pairs (16, Fig. 2a), wherein barrier walls (15) serve to separate one pair of resistive heating elements from another adjacent pair of resistive heater elements." Applicant disagrees. To begin with, Applicant submits that reference numeral 15 in Baughman is an ejection chamber, not a barrier wall. Furthermore, Applicant submits that Fig. 2a of Baughman shows resistive heater elements 16 being formed individually and not as pairs. Therefore, Applicant submits that Baughman can not possibly teach Applicant's claim 41.

Regarding Applicant's claim 42, Applicant claims, "said electrode layer is deposited so that each pair of resistive heaters are electrically connected in series". On Page 5 of Paper No. 20060908, the Examiner addresses this limitation by saying, "As applied to claim 42, Chan et al discloses the electrode layer as read lead (24a, Fig. 2a) is deposited so that each pair of resistive heaters as lead (24a) are electrically connected in series (see sequence Fig. 1, 2a,-2b and Fig. 3)". Applicant disagrees. To begin with, Chan is not used to reject Applicant's claims in Paper No. 20060908. Second, Applicant objects to the Examiner equating reference numeral 24a of Baughman with Applicant's electrodes. Applicant submits that reference numeral 24a of Baughman is a lead-in lobe that allows ink to flow in easier from ink fill slot 18 through ink feed channel 14. Further, element 24a of Baughman is not shown as being connected to any resistive heater element 16. Applicant further submits that Baughman does not illustrate or discuss electrodes. Even further yet, Baughman

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does not teach or illustrate resistive heater elements as being in pairs. And still further, Baughman lacks a teaching of connecting any resistive heater elements in series. Therefore, Applicant submits that Baughman can not possibly teach Applicant's claim 42.

Regarding Applicant's claims 47 and 50, Applicant claims, "the barrier walls being adapted to group together said plurality of resistive heater elements in pairs" and "wherein there is a two to one correspondence between the resistive heater elements and the nozzle holes". On Page 5 of Paper No. 20060908, the Examiner states that these limitations are taught by resistive heater elements 16 and nozzle holes 20 of Baughman. Applicant disagrees. Applicant submits that Baughman clearly teaches that there is a one-to-one correspondence between resistive heater elements 16 and nozzle holes 20 and that single resistive heater elements are surrounded by the barrier walls 17. Furthermore, the text of Baughman states at col 3, line 67 through col 4, line 1, "Associated with the resistor 16 is a nozzle, or convergent bore, 20, located near the resistor in a nozzle plate 22." Also, col 4, lines 18-20 of Baughman state, "Each orifice 20 is thus seen to be operatively associated with an resistor 16 for ejecting as quantity of ink ...". Therefore, Applicant submits that Baughman can not possibly teach either of Applicant's claims 47 or 50.

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In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

No fee is incurred by the filing of this amendment.

Respectfully submitted,



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